extraneous overburden material getting mixed with coal during mechanical/bulk mining operation. Inspite of the best efforts made, it is not possible to fully segregate shale, stone etc. from coal in the process of mining and handling. However, in order to ensure despatch of coal free from extraneous material, Coal companies have taken the following steps :

(i) Stones are being segregated at the time of loading of coal.

(ii) Slow moving picking belts are being provided in coal handling plants for manual picking of shale & stone pieces.

(iii) Better supervision is being ensured at the time of loading to maintain quality of coal and to develop quality consciousness among workers, supervisors and executives.

**Exploration strategy of coal in the country**

1851. SHRI PARMESHWAR KUMAR AGARWALLA : Will the Minister of COAL be pleased to state :

(a) the details of exploration strategy of coal adopted in the country ;

(b) whether it differs from the larger coal producing countries of the world ;

(c) if so, whether modernised strategy is not being followed in view of heavy investment made in Coal India Limited even after 20 years of nationalisation ; and

(d) if such a strategy has already been adopted, what are the details thereof ?

THE MINISTER OF STATE OF THE MINISTRY OF COAL (SHRI AJIT KUMAR PANJA) : (a) to (d) In India coal exploration is carried out in two stages. In the first stage Geological Survey of India (GSI) undertakes regional exploration for locating the potential coal bearing areas. This is followed by detailed exploration carried out by Central Mine Planning & Design Institute Limited (CMPDIL) directly as well as through Mineral Exploration Corporation Ltd. (MECL), State Governments and private agencies for the purpose of mine planning and exploitation of coal reserves for meeting the demands of different sector of the economy. Inter-se priority of various prospects/blocks taken up for detailed exploration is decided taking into account factors like emerging demand and its location, availability of infrastructure for coal evacuation and techno-economics of the mine development including coal quality.

Each country decides its own strategy depending on the overall indigenous availability of energy resources like coal, oil, natural gas, nuclear, hydel etc. Since coal will continue to remain as a major source of commercial energy in India for coming few decades, modern exploration technologies like surface geophysical survey and down hole multi-parametric geophysical logging, electrical resistivity surveys, megnetic survey etc.. have been inroduced in almost all the coalfields in the country.

**Adoption of new technology in the field of coal**

1852. SHRI PARMESHWAR KUMAR AGARWALLA : Will the Minister of COAL be pleased to state :

(a) whether it is a fact that in advanced coal producing countries like China, Australia and others, geological mapping followed by geophysical surveys and a few non-coring bore holes with bore hole logging and only very few coring bore holes to test the strata properties are done ;

(b) whether it is a fact that this technology produces more reliable information at a cheaper cost and faster rate ;

(c) whether it is also a fact that wherever required this information is supplemented by underground geophysical surveys ;

(d) if so, whether this method and technology been adopted ; and

(e) if not, the reasons therefor ?

THE MINISTER OF STATE OF THE MINISTRY OF COAL (SHRI AJIT KUMAR PANJA) : (a) and (b) Yes, Sir. Exploration technology mix of surface

surveys and limited coring/non-coring boreholes is cheaper and faster for certain formations but it is reported to be of lower reliability, compared to mix of surface surveys aad larger number of boreholes.

(c) to (e) Yes, Sir. Central Mine Planning and Design Institute (CMPDI) has already undertaken introduction of these exploration technologies in India.

**Officials sent Abroad for Training**

1853. SHRI PARMESHWAR KUMAR AGARWALLA : Will the Minister of COAL be pleased to state :

(a) how many technical/non-technical Personnel of Ministry of Coal/Corporations Departments therefor were sent abroad for training and visits during the 6th and 7th year Plans and in the years 1991-92, 1992-93 and 1993-94 (as on date) ;

(b) what were the fields of training in each case undergone and details of the type of work done during such visits in each case ;

(c) how many technical personnel were actually posted after training in the job in which they were trained abroad ;

(d) whether it is a fact that some mining Engineers who were trained in Long Wall Faces were also posted for miscellaneous jobs away from work site ; and

(e) if so, the details of each such case and the reasons of such posting ?

THE MINISTER OF STATE OF THE MINISTRY OF COAL (SHRI AJIT KUMAR PANJA) : (a) to (e) Information sought in the Question pertains to past 14 years. Such information is not compiled or maintained centrally. It is felt that the time and effort required to collect and compile the information sought may not be commensurate with the purpose sought to be achieved.

**Coking Coal reserves in the country**

1854. SHRI S. AUSTIN : Will the Minister of COAL be pleased to state :

(a) whether reserves of prime coking coal in the country have been estimated ; and

(b) the steps being taken to reach new coking coal bearing areas to meet the country's metallurgical demand and to curb imports ?

THE MINISTER OF STATE OF THE MINISTRY OF COAL (SHRI AJIT KUMAR PANJA) : (a) Yes, Sir.

(b) Some of the steps being taken to augment indigenous availability of coking coal, interalia, include :

(i) Increase in raw coking coal availability by reorganising existing mines and development of new mines ;

(ii) Increasing raw coal feed washeries by supplying low volatile medium coking coals of suitable quality ;

(iii) Early commissioning of to new washeries under construction at Madhuband and Kedla for increasing the existing washing capacity ;

(iv) Modification of the existtng coking coal washeries to improve the capacity utilisation as well as the quality of washed coking coal ;

(v) Cooking coal mines in Meghalaya and Assam are being identified to make available increased quantities of low ash coking coal.

**Grade-wise production of Coal**

1855. SHRI MURLIDHAR CHANDRAKANT BHANDARE : Will the Minister of COAL be pleased to state :

(a) the grade-wise production of coal in the country during the last three years :

(b) how much of this coal is produced in underground mines and open cast mines ;

(c) whether the country has to import superior quality of coal ;